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MEXICO: URBAN LIFE

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THE CITIES

The urban centers of Mexico present aspects very different from those noticed in the small towns and rural districts. The structures in the cities are superior and the people are in a higher stage of development than in the rest of the country when taken as a whole. A comparison of these features, made between individual Mexican cities and between Mexican cities and cities in the United States, yields instances of similarity. It likewise discloses much dissimilarity.

Mexico has but one large urban concentration, Mexico, D.F. Its next-ranking cities contain populations far below 200,000. These smaller cities, accordingly, cover much less territory and embrace far less economic activities. From this viewpoint, we obtain differences of area, population and total economic productivity. If we find these differences, we may reasonably expect to find differences in the degree of modernity. Since Mexico, D.F. is the largest urban concentration and the center of many different types of activities, it is to this city we should look for the greatest competition between human beings along their individual lines of economic activity. Where we find the greatest striving to outdo one's fellow men, we should find the most intensive play of individual ambition, the most progress.

Buildings. Mexico, D.F. contains buildings that compare favorably with those found in large cities in the United States, but their number is small. For the most part, the architecture still clings to outmoded types of buildings common to Latin countries. The Spanish cities, Barcelona and Madrid, are more modern than Mexico, D.F. Rio de Janeiro and Buenos Aires are yet more modern than the leading cities of Spain. Mexico, until recently, has been a rather

isolated country. The pioneering spirit that developed to a high degree in the United States and was later reflected in its development in the large cities of some South American countries, seems to have but recently found lodgment within the confines of Mexico. Where a reflection of the resultant progress of this pioneering spirit has worked wonders in an old country like Spain over a rather long period of years, it is possible a similar flooding of Mexico by a modern progressive spirit will work a much more rapid transfor-

FIG. 1. Mexico, D.F. has a few modern structures. For the most part the buildings are of Spanish architecture and not modern.

mation in a country far newer and possessing a much larger abundance of natural resources. It must be remembered that Mexico has a greater store of world knowledge to draw upon than had the other countries at the beginning of their processes of advancement.

The structures in Mexican cities are usually of a poor grade of bricks covered with stucco of various colors, a combination of white trimmed with red, green, or buff, being common. As little wood as possible is used, and while the buildings appear substantial, altho over-ornamented, they are very likely to fall down upon the occurrence of an earthquake, dumping tons of heavy, earthy materials upon all who are within. Most of the structures are less than four stories in height, front flush upon the sidewalk, and have shuttered windows opening from ceiling to floor. Of course, the inclosed garden

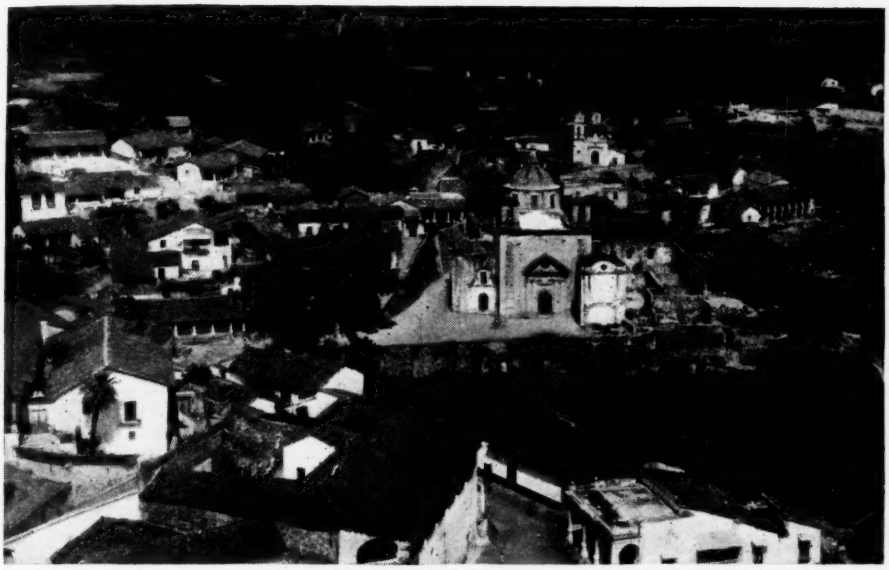

FIG. 2. A mountain town.

living-room, called patio, is a feature of every building in which people live and its influence is seen in the architecture of many business buildings. Along some of the boulevards the houses are set back from the street and secluded by shrubbery. There are instances where such dwellings are just like those found in the better residential sections of cities in the United States. Every city contains a number of immense churches.

Streets. Mexico, D.F. has many wide streets, well-paved. Puebla, Monterrey, Guadalajara and the few other cities of similar class, also have some wide avenues. All Mexican cities have many narrow streets with extremely rough surfaces, the smaller the city, the rougher and narrower its streets. Chilpancingo, a city of seven thousand inhabitants in southwestern Mexico, presents a good example. The main highway between Mexico, D.F. and Acapulco, Mexico's only automobile road leading across the mountains to the Pacific, passes thru Chilpancingo via a street that is so narrow one may touch the walls of the houses on either side of his car. The pavement is of exceedingly uneven cobblestones and every street crossing this thorofare is similar to it. During heavy rains torrents of water rush down these streets causing the autoist to think he is really driving up a former stream bed. In the small cities within the mountains the streets are not only rough and narrow, but very

irregular and subject to extremely sharp ascents and descents. Taxco presents an example of such conditions. The main highway could not pass thru the city without incurring much expense due to widening streets and destroying buildings. It passes the city on one side and will result in time that many of the present Taxco inhabitants will build a modern city on that side of what will become the old town. There are instances of such developments in Nice, Barcelona and even Tangier.

FIG. 3. Most of the streets in the cities and towns are narrow and if paved or cobbled, rain water flows down the middle of the street.

Transportation. The streets of Mexico, D.F. are crowded with automobiles, most of them of American design. There are many automobiles in Monterrey, but in the other cities the writers have visited, few cars are seen, unless upon a good highway connecting the city with Mexico, D.F. Most of these cities moderate the effect of their poor streets by the establishment of one-way traffic. Such customs confuse visitors even tho they help eliminate traffic tangles. Ignorance of street designation never excuses the stranger who finds himself trying to proceed the wrong way on one of these thorofares, for Mexican police do not accept excuses. In the small cities and towns the donkey is still the chief means of transportation, both for man and for goods. Their clattering hoofs, their heavy loads, and the meekness with

which they endure blows from their drivers add a picturesque and somewhat amusing note.

Commerce. Every Mexican city, no matter its size, has a market place. Mexico, D.F. has several. The market may be in a large building or on a vacant plot of ground. In any case, the venders with their goods fill the allotted space and spread over all the streets nearby. During the morning and the late afternoon hours these places are crowded with people for in such markets one can find about any article he may need. Mexico, D.F. and other cities which have a large number of inhabitants possess many modern stores.

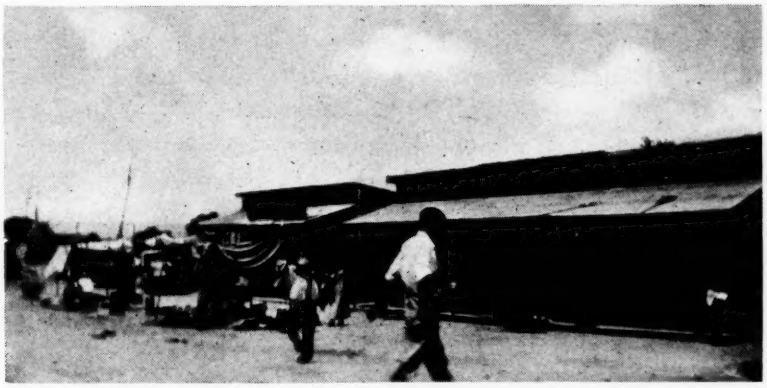

FIG. 4. The business section of a Mexican town in the interior of the country.

Some of the smaller cities have yet to discover such evidences of progress.

Industry. Mexico is not an important manufacturing country, yet it has a few cities which are beginning to boast of their manufactures. As in the United States, the factories are usually located upon the edge of the city. Puebla and Orizaba are especially noted for the development of the cotton textile industry. Mexico, D.F. has a wide variety of industries. Monterrey is noted for its iron and steel mills. It possesses a variety of other industrial establishments. Some of the Mexican cities are famous for their breweries or distilleries. Others owe their importance to nearby mines, oil wells or ceramic plants.

THE PEOPLE

Characteristics. The people of Mexican cities are much more energetic and alert than those of the rural districts because they have

to develop such characteristics. The greater the concentration of people the greater the competition of one with another for the things each must have. The competition quickens the activity and sharpens the intellect in a situation where to be dull witted is to place oneself at the mercy of so many who have escaped that stage.

Dress. When one observes the people at Mexico, D.F. hurrying to work in the morning, thousands on street cars and buses, other thousands in their own cars or walking, the first impression conveyed is not much different from that created by a similar scene in any city in the United States. The people dress, act and look much like Americans. However, the impression of similarity is not complete. The ordinary laborers of Mexico, D.F., or any other city of Mexico present features which differ from those of a like class of workers in the United States. They constitute a lower class than that engaged in similar work in the United States. Both men and women of this class follow very closely the customs seen in the rural districts, especially in dress. Their feet, if not encased in cheap sandals, are bare. Even on the best thorofares in Mexico, D.F. it is common to see barefoot workmen mingling with the throngs of well-dressed people.

Living Conditions. In Mexico, D.F., and it is also true somewhat of the smaller cities of the republic, there have developed three classes. Those who direct and control business and politics and those who operate small business establishments, are skilled workers, or "whitecollar" employees, while the great bottom class consists of the ordinary laborers and poor folks. Those of the highest class live well and are surrounded by luxury. Those of the middle class live well, but not as well as the similar class in the United States. The scale of living of the lowest class is far below that of the American workman, even tho he lives in the tenements of some of our large cities.

Observation of these people on the streets, glimpses into their houses crowded against each other along the poorer streets, and into their little shops show the sordid conditions under which they exist. The peso, or peso and a half, which they receive as a daily wage for their common labor cannot buy much more than the necessities of life, such as corn and beans, a little flour, a little cheap meat now and then, cheap cotton clothes, and perhaps a little left over for some alcoholic liquor or a lottery ticket.

The Problem of Class Distinction. The process by which this class can be raised to a higher standard of living is a mystery and can occur only thru a period of evolution. The more poor and ignorant people populating a country, the quicker and more certain that country's wealth is bound to concentrate in the hands of the small minority of capable men. To redistribute this wealth is a difficult problem and any miscalculation as to the speed of the redistribution is certain to kill the incentives behind all progress. It is doubtful if the Mexican laborer cares much about such redistribution of wealth. If his country's prosperity can be fostered he has hopes of receiving a higher wage which will permit him to attain a higher standard of living. At present he is able to eat, has clothing and shelter and his children grow to the point where they can take care of themselves. He seems content to continue as he finds himself. Nevertheless, there is a discordant note in the picture. There is a different attitude toward the common laborer, seen in Mexico and in many parts of Europe. Those who hold more favored places in life look down upon the working man and treat him with an outward show of contempt seldom seen in the United States. We have observed this feeling or treatment in France, Spain, Italy, and even to some extent in England. It is as if common labor constitutes a disgrace and such is not a healthful feature of any society. If all are to perform their work well and do their bit toward the progress of all they must be able to feel some pride in the accomplishment of a good job no matter what it is. Perhaps this is one of the difficulties of the lower classes of Mexico, and as such, results in a weakness in the structure of their society.

RECTANGULAR STATISTICAL CARTOGRAMS OF THE WORLD

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Since the first statistical cartograms of the United States were published in the spring of 1934,* considerable interest has been shown by teachers in this device to use it as a tool in teaching geography.

The rectangular statistical cartogram is a device for visualizing statistical facts. Its principle is, that each region involved in the study is represented by a rectangle, the area of which is propor-

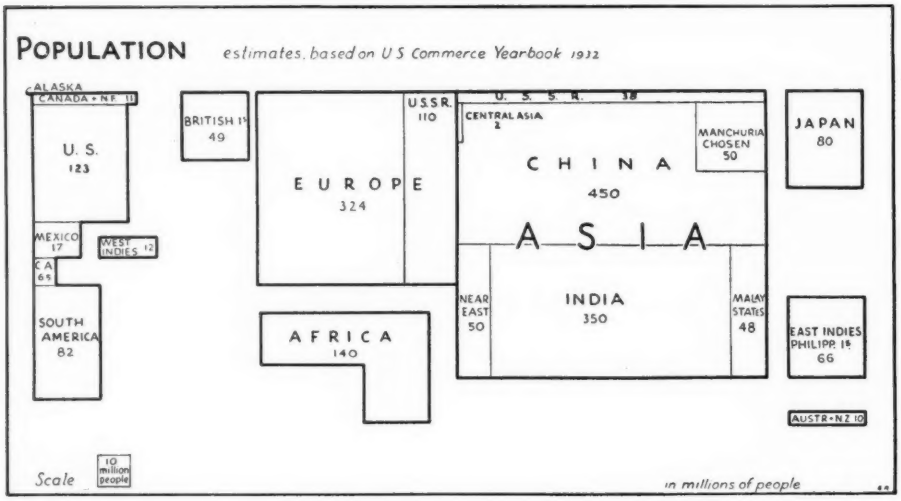


FIG. 1. Rectangular statistical cartogram showing the land areas of the various continents and their most important subdivisions. The proportions are the same as on the equal-area map. This cartogram helps somewhat by its massed form to visualize the sizes of the regions and it is shown here chiefly for comparison with the next two cartograms.

tional to the value which this region represents. The rectangles are put approximately in the same position as they are on the map. Each larger region can be subdivided by proportional dividing into smaller parts. Fig. 1 will illustrate this principle. This cartogram shows the land areas of the world in the same proportion as they are on the globe. Asia is represented by a square, and is subdivided into regions. The other continents are grouped roughly in their

* E. Raisz, The Rectangular Statistical Cartogram, *Geog. Review*, Vol. 24, pp. 292-296, 1934.

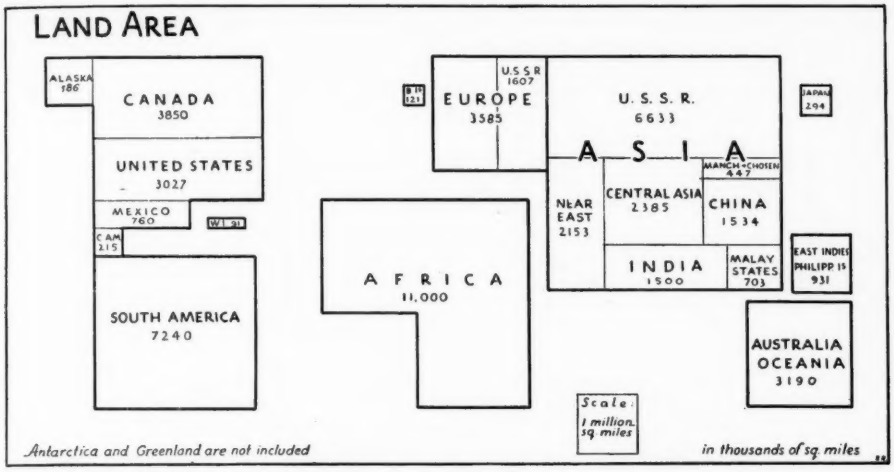


FIG. 2. Cartogram showing the population of the world. The cartogram gives a vivid picture of the masses of people living in the various parts of the world, but only a rough picture of their relative cultural and economic importance.

proper places. This cartogram serves only for easier comparison with the subsequent cartograms.

Fig. 2 has the same arrangement as before, but the size of the rectangles is made proportional not to the land area but to the population of the regions. The picture thus produced is very different. Canada, Siberia, Australia and Central Asia are much diminished

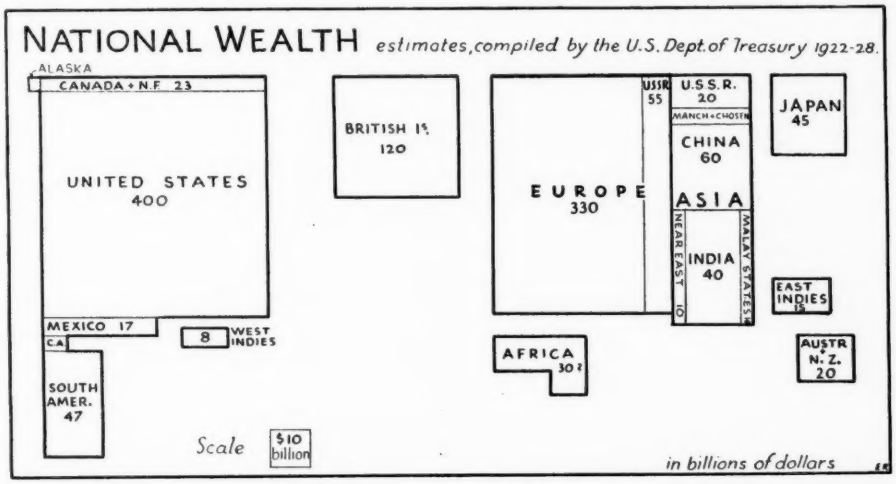
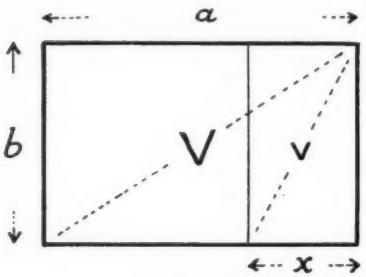


FIG. 3. Cartogram showing the national wealth of various countries of the world. This cartogram gives the best picture of the weights of the various countries in the balance of world relationships. To have this picture in mind will help the students to understand many problems of international trade and politics.

in size. Alaska became microscopic, while China, India and Europe expanded considerably.

But numbers of people alone is only one factor in evaluating the cultural and economic importance of a region. It would be difficult, but not impossible, to make a cartogram showing the cultural elements; the economic significance of the countries can be approximated, however, in showing their national wealth. In Fig. 3 the



V (value of large unit) = a.b

v (" " small ") = x.b

$x = \frac{v}{b}$

FIG. 4. Diagram to show method of proportionate dividing.

United States and Great Britain are overwhelmingly large while China, India and Africa are relatively small. This is perhaps the most important cartogram of all. It will help in understanding world relationships if the pupil keeps these proportions in mind. It should be added, however, that estimates of national wealth vary with the different authorities, sometimes as much as 50 per cent.

The statistical cartograms have several uses. First, they help economic planning—this phase is not discussed here—the second is educational. It helps to correct misconceptions. Pupils are likely to over-estimate regions as Canada, Siberia, Africa, and our own West just because they loom up large on maps. The simple picture which the cartogram gives is easily comprehended and remembered and will be stimulating in making comparisons.

Further stimulus will be gained by actually preparing cartograms. Their construction is quite simple. First, the statistical data are collected, then the largest unit will be laid out. It is helpful to do this on a checkered or so-called section paper, with 1/10th-inch divisions, selecting a scale so that one small square on the checkered paper shall correspond to a unit, as for example, 1,000,000 people or $10,000,000, etc., whatever may be the convenient scale for the particular purpose. Subdivisions are made as illustrated in Fig. 4. Calculations may be conveniently made with a slide ruler. The preparation of similar cartograms for Europe, South America, etc., would be useful, but in the construction of these, some countries have to be grouped together to avoid too much complexity.

METEOROLOGY AND AVIATION AT THE KANSAS CITY AIRPORT

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The Kansas City branch of the American Meteorological Society meets every two weeks at the municipal airport. The group consists of about thirty men, some of whom are employed as meteorologists by airlines and the weather bureau while others are high school and college teachers. Special meetings are called when noted mete-

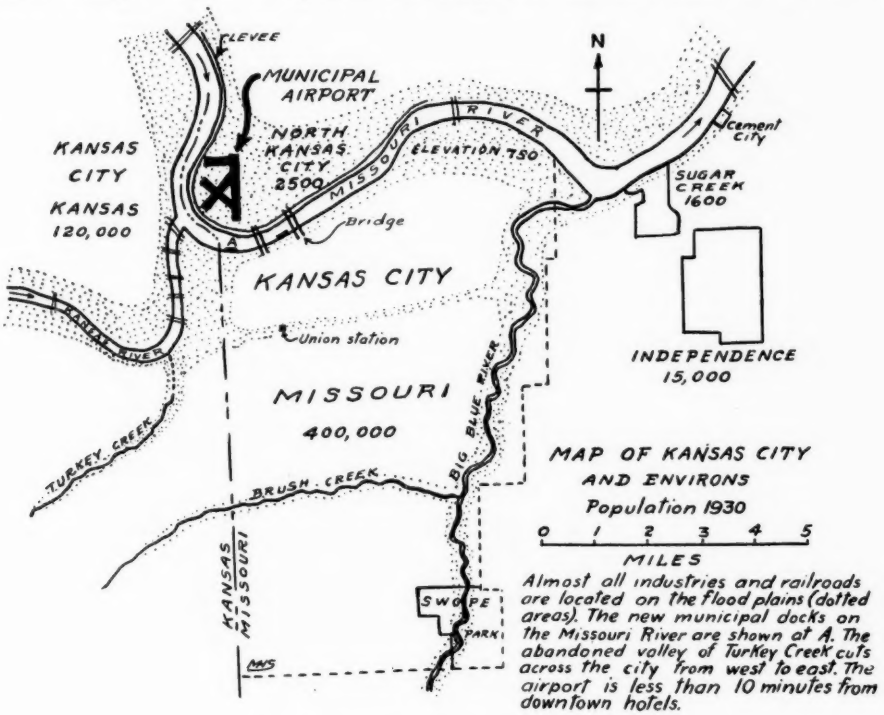
LEVEE
MUNICIPAL AIRPORT
NORTH KANSAS CITY 2500
MISSOURI RIVER
ELEVATION 750
N
Cement City
SUGAR CREEK 1600
KANSAS CITY KANSAS 120,000
Bridge
KANSAS CITY
Union station
INDEPENDENCE 15,000
MISSOURI 400,000
TURKEY CREEK
BRUSH CREEK
BIG BLUE RIVER
KANSAS MISSOURI
SWOPE PARK
MAP OF KANSAS CITY AND ENVIRONS
Population 1930
0 1 2 3 4 5
MILES
Almost all industries and railroads are located on the flood plains (dotted areas). The new municipal docks on the Missouri River are shown at A. The abandoned valley of Turkey Creek cuts across the city from west to east. The airport is less than 10 minutes from downtown hotels.

FIG. 1. Location of municipal airport

orologists pass thru the city and stop long enough to give lectures. Kansas City is an important aviation center. Fig. 1 shows the location of the municipal airport.

Since planes are arriving and leaving at all hours of the day and night it is necessary for the airport weather bureau to maintain 24-hour weather service. A weather map of the central and midwestern states is made every six hours. A battery of teletype machines is in continuous operation, bringing weather data from many cities. One air transport company, Transcontinental and

Western Air, employs five meteorologists who furnish 24-hour weather service to the company's pilots. Several times a day balloons and airplanes are sent aloft for the purpose of obtaining data on upper air conditions. One thing is certain in meteorology—vertical air analysis is becoming more and more important every year.

LAW REQUIRES TWO-WAY RADIO

Aeronautical law now requires that every airplane that carries passengers for hire on scheduled airlines must be equipped with two-way radio communication. In other words, the pilot can not only receive messages, weather information and directional beam signals by radio but can also broadcast his location, altitude, weather conditions, etc. The TWA radio dispatcher contacts the airliners twice every hour. This airline alone has sixteen arrivals and departures each day, five arrivals from New York with a scheduled time of less than six and one-half hours. See Fig. 2. A passenger to Los Angeles boards a plan here at 4:20 P.M., has dinner served enroute, sleeps comfortably and arrives on the Pacific coast the next morning. Increase in air travel has made it imperative that the weather bureau furnish more accurate weather information more often each day. Especially valuable to the pilot is information about fog and low clouds (low ceiling) at his destination. He may land, if necessary, at an emergency field where visibility is better. Every thirty minutes the Department of Commerce radio station at Kansas City broadcasts accurate weather conditions at some eight or ten mid-western cities served by scheduled air lines. A pilot flying, say to Chicago, can thus receive a description of weather at the Chicago airport a very few minutes before he lands. He doesn't

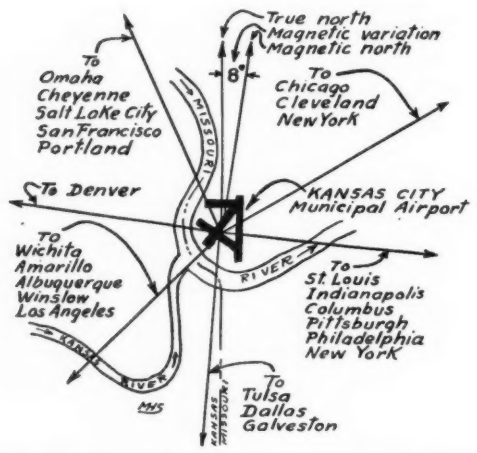

FIG. 2. Airline connections

have to circle the field in order to ascertain the wind direction. This information he has received by radio and he is able to make an immediate landing against the wind. Such procedure saves time and money.

METEOROLOGY

Weather maps are made every six hours. Wind direction and velocity at various altitudes are ascertained by balloon soundings. Thus the pilot may find that by flying at a certain altitude he will have a favorable wind while a thousand feet higher or lower he might have a severe side or head wind. The advance of warm and cold fronts aloft is often indicated by data from self-recording meteorological instruments carried into the upper air by small airplanes. Such airplane soundings from a number of stations over the country make it possible to picture a vertical cross-section of the atmosphere.

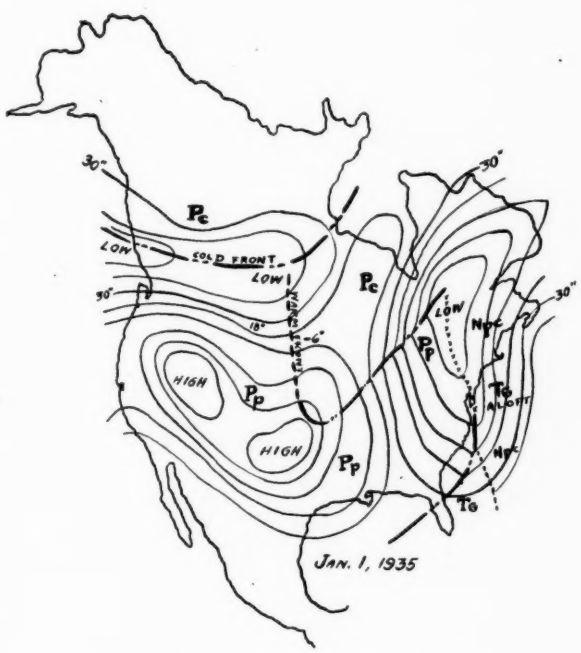

FIG. 3. Weather map for Jan. 1, 1935

The various air masses are delimited on the weather map of North America and the movement of each mass is closely observed. If a Polar Pacific air mass is one day off the ocean it is labeled Pp1; when two days old it is labeled Pp2, etc. A Polar Pacific air mass may move to the Gulf of Mexico and then northward. As this air mass moves northward, its identity, whether Polar Pacific or Tropical Gulf, can be determined only by airplane soundings. Naturally, the Polar Pacific, which has passed over the western mountains, will be much dryer than the Tropical Gulf. Again, a south wind may be the return northward of a Polar Continental air mass instead of Tropical Gulf.

Fig. 3 shows a weather map of North America with the air masses labeled and the warm and cold fronts shown. It will be noticed along the warm front in the Dakotas that the temperature west of the front in Polar Pacific air is 18° while east of the front in Polar Continental air it is 6° below zero.

In the study of air masses it is desirable to know (1) the source, (2) the life history and (3) the present structure. The identification of air masses derived from airplane and balloon soundings is accomplished mainly by use of the Rossby[1] diagram. Copies of this diagram may be found at almost all U. S. Weather Bureaus. It is a graf on which ordinates represent the potential temperature of the dry air and abscissae the specific humidity. "Potential temperature is defined as that temperature which air would have if it were compressed dry adiabatically to a pressure of 1000 millibars (750 mm.). Specific humidity is the weight or mass of water vapor in a given weight or mass of moist air. It can be changed only by the addition of water vapor from evaporation or by its removal with condensation and it does not change during an ordinary adiabatic process."[2] Each air mass listed below has a definite characteristic curve for summer and winter on the Rossby diagram. After data is secured by upper air surroundings, the curve is plotted and a comparison is made with the established characteristic curves. Identification of the air mass is thus completed. To a lesser degree such properties as wind direction, relative humidity, visibility, and cloud forms are used. The Rossby diagram not only functions in the identification of an air mass but also aids in locating fronts aloft and in showing the stability or instability of the air mass.

AIR MASS NAMES AND SYMBOLS

I. POLAR
- Pp Polar Pacific
- Pc Polar Continental (causes cold waves)
- Pa Polar Atlantic
- Pb Polar Basin (Great Basin "High" in winter)

II. TROPICAL
- Tp Tropical Pacific (from Pacific "High")
- Tc Tropical Continental (summer, from northern Mexico)
- Ta Tropical Atlantic
- Tg Tropical Gulf (Gulf of Mexico and Caribbean Sea)

[1] C. G. Rossby, Massachusetts Institute of Technology
[2] H. R. Byers, U. S. Weather Bureau; formerly with M.I.T.

III. TRANSITIONAL

The letter N preceding any one of the above symbols indicates that the air mass is in a transition stage.

PASSENGER AIRPLANES

Remarkable improvement in airplane construction has been made in the past five years. TWA is now using the twin-engine Douglas all-metal monoplane. The two nine-cylinder air cooled engines develop more than 1400 horse power and the plane costs about $60,000. While in flight two pilots and a stewardess are in charge of the plane. The human pilot is required for the take-off and the landing, but after the ship has reached its flying altitude and is correctly set on its course, the robot pilot is in charge. The robot is said to be more sensitive to changes in altitude and heading than is the human pilot. This great airplane, weighing about nine tons when loaded, can climb 1400 feet a minute to an altitude of 35,000 feet if necessary. The cruising speed is about 160 miles an hour, but may be increased to 200. The carrying capacity is twenty-four passengers and several hundred pounds of mail. There are twelve sleeping compartments.

SCANDINAVIAN CITIES

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INTRODUCTION

As was true of an earlier series[1] so also with these travel vignettes it is not intended that they should be documented geographical pieces. Instead, in each article the endeavor will be to set forth something that is characteristic of the place under consideration; a part of its flavor so to speak. It happens that each city presented has a different, special aspect. By bringing such particulars into the foreground each place can perhaps be made more real in print, more vivid, than it would be thru a longer systematic account.

It is a source of some wonder to me, in view of the prevailing pedagogical emphasis on project teaching and socialization of geography, that so much of the content of the JOURNAL is directed to the inculcation of organized, old school, subject matter. These sketches, accordingly, are to be regarded in part as an attempt to escape from

[1] JOURNAL OF GEOGRAPHY, Vol. 31, 1932, pp. 307-309, 343-344; Vol. 32, 1933, pp. 41-43, 81-84, 119-123, 170-172, 218-222, 254-258.

the compulsion of location, site, numbers, products and the technology of production, items which do seem to be the inevitable content of geographic instruction, whether it be old pattern or new mode.

1. OSLO

In the spirit of the Introduction (which the reader will regard perhaps as misguided contrariness), Oslo, rather than Stockholm, is selected for the lead-off position in the series. The contrariness of this choice derives from the probability that the average geographic account would contain the assertion that Stockholm is the most representative and most attractive of the Scandinavian cities. Possibly Stockholm is, in its detail, the fairest of these sites on the northern seas, but Stockholm's handicaps in the beauty competition are that one can not see Stockholm nor see the world go by in Stockholm. Whereas Oslo achieves in being seen and seeing.

To see Oslo one may proceed either to one of the high hills which constitute the sides of the open fiord at the head of which the city is, or, better, go across the water to the peninsular elevation of Bygdoe (pronounced Bigdae).[2] There sit at a table of the terrace restaurant surrounded by flowers and survey at leisure what is probably as lovely a prospect of man's close occupation of the land as the world knows. Naples on its bay is justly celebrated, but the Capri which, moved nearer, could serve as its Bygdoe would probably be too jealous of its own charms to enjoy the role of a mere vantage point for a view of Naples. Besides, again, tho Naples too has its flowers and colors, these have not the variety, nor the sparkle, nor the intimacy of those at Oslo. When you look at Oslo you are at the heart of a multi-hued bouquet which is the city.

All the impressions herein set forth were gained during the month of September. It needs no more than the black and white picture to make convincing the genial glow that the air from over the West Wind Drift, Child of the Gulf Stream, provides in this high latitude so late in the year. Until much later no frost sears the flowers, or makes deceptive the mellow sunshine at Oslo.

It is again characteristic of Oslo that its chief architectural attraction, what the Germans are pleased to term a "Sehenswürdigkeit," literally object-deserving-to-be-gazed at, the Akershus Castle, dating from the thirteenth century, is set immediately at the city's front. Commonly such wonders must be tediously sought out and when found can seldom be seen in prospect. Not so Oslo,

[2] The "oe" ending really means island as in Faroe, but Bygdoe here is a peninsula.

Oslo, Norway. View from the Royal Yacht Club anchorage across part of the harbor toward the city and its valley and hill site.

its Akershus is directly there and its happy lines are as convincing as an illustration of the castle owned by the Prince Charming in a book of fairy tales.

Between the king's residence, on a height, and the farthest penetrating bay of the harbor, the main street of the city, the Karl Johansgate, extends. It is a magnificent avenue fronted, in the principal section of its length, by a pleasant narrow park with trees, gardens and statues. Along the Karl Johansgate with the park and its flowers as a background all of smart Olso parades of an afternoon. And interrupts the parade with a stop for tea and cakes in the cafe of the leading hotel of the city, the great windows of which look directly on the parade at its thickest. That gathering point and that parade is the focus of Oslo. Here the world sees and is seen. Unlike similar sidewalk cafes in most European cities, that of Oslo is completely glassed in so that one may escape any slight chill that the fresh air of these high latitudes might induce and so prevent that complete relaxation and contemplative enjoyment of the passing scene which Oslo so much loves. Thus Oslo lives.

THE PREPARATION OF GEOGRAPHY UNITS BY STUDENT TEACHERS

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Probably no elementary school subjects require a broader background and greater depth of understanding than geography and history. Recognizing this, the Maryland State Teachers College at Towson has for several years given students an opportunity to prepare for student teaching by making a unit in one of these subject-matter fields in the term immediately preceding the teaching period. The students who make such units have studied geography one or more semesters, and in the future will probably have had a full year's work. The subject of the unit is selected by the training teacher to fit the needs of the grade and fulfill the requirements of the course of study. Thus the student knows several weeks in advance the grade in which he is to teach, and the specific subject matter with which he must become familiar. The making of the unit then becomes part of the regular work of the geography course. Since students teach in all the elementary grades, the variety of topics is such that, while the units are being made, individual and group conferences are substituted for the regular class meetings. About three weeks is usually given to the making of the units, after which the other work of the course is resumed. This procedure may vary somewhat with different instructors.

During the teaching period the college instructors are given an opportunity to visit the training centers where the units are being taught, and to talk with both training teacher and student about the work. Thru the medium of the units, therefore, the training teacher is able to get the viewpoints of the geography or other instructors, and thru following up the units, the college instructors keep in contact with the elementary school and its needs.

With such a scheme the problem at once arises as to the form and substance of the units. Ultimately the unit must fit the needs of a given group of children, but in the process of making it, the student must gain in power to think geographically, to discriminate between geographic and non-geographic materials, and to organize these materials for teaching purposes. In an effort to bring about these results, the author gives to each student preparing to teach in the fourth, fifth or sixth grades a set of mimeographed directions. The students do independent work on the subject assigned to them, and

then bring their findings, together with a proposed organization, to the instructor who recommends additional preparation, and criticizes the organization. The number of conferences needed depends upon the individual student.

SOME SUGGESTIONS FOR PREPARING A GEOGRAPHY UNIT

I. What Your Major Outcomes Should Be

From your study of regions you have learned that geography is concerned with the relationships between man's activities and his natural environment. Therefore, in whatever grade you teach geography you must bring out (1) man's activities in the given region, (2) the factors of the natural environment which help to explain these activities. These facts must be related in such a way that an understanding of the geographic personality of the region is developed.

II. Preparing Yourself

Much of your success in guiding children to learn will depend upon your own wise selection and mastery of what you are planning to teach. Your first task then is to acquire for yourself an understanding of how the people have adjusted themselves to their natural environment in the region to be developed with the children.

As you read these suggestions for the first time, supply examples in your mind from some region you have studied in class. Then use the suggestions to help you work out the unit you are to teach.

For you and for the children the main sources of geographic information are: the landscape itself; pictures; maps; verbal material; grafs and statistics. As you search in the above sources, ask yourself these questions:

1. What are the people in this region doing? Which of these are the chief or outstanding activities?
2. What evidences of these human activities are there in the landscape?
3. What features or conditions in the natural environment help to explain why these activities are being carried on in this particular place?
4. How does the natural environment help to explain the human activities in this region?

Organize your findings under such headings as those suggested below. Select that material which contributes to an understanding of human adjustments. Isolated facts have no place in geography. It will help you if you keep in mind as you work the suggestions offered under topic III of this outline.

This analysis of material is for *your own use only*, and does not constitute a procedure to be used with children. However, the relationships existing between human adjustments and the natural environment, which you indicate in your "Interpretation," represent ideas or understandings to be attained by the children, and are elements contributing to the geographic personality of the region. Man's will and cultural background, and his connections and relations with other regions have much to do with the way he uses what is at hand. Therefore you must consider these factors as well as natural environment in your interpretation.

When you have made this interpretation or discovered these relationships, write a summary which you think expresses the geographic personality of the region in terms the children of the age you are to teach can understand. This constitutes the *major understanding* of the unit, toward the development of which each of your teaching exercises will contribute some part.

SAMPLE ITEMS

Piedmont Plateau of Maryland—Dairy Farming

Details of the Cultural Landscape		Factors of the Natural Environment	Interpretation
Relatively Permanent Features	*Movable or Changeable Elements*		Proximity of cities like Baltimore and Washington has created a demand for fresh milk and cream, and so has helped people to decide how to use their land.
Long rather low dairy barns with many windows Usually some space above for food storage Frequently face south		Sun is in the southern sky in this latitude	Health regulations require that there be a given amount of light for each cow, so dairy barns usually have many windows which frequently face south to get maximum sunlight.
	Cattle grazing on pasture lands in summer and mild weather	Rolling or hilly land with level uplands and valleys	Land with slopes too steep to plow can be used for pasture. The grass helps to hold the soil in place and prevent erosion.
		Some rather wet meadow lands near streams	Meadow land too wet for crops, supports a growth of grass suitable for cattle.
		38″–44″ rainfall rather evenly distributed, 190–200 days growing season	The even distribution of rainfall tends to keep the pastures green and permit agriculture. The long growing season permits grazing for long period and gives crops time to mature.
Silos on many farms	Crops of hay, corn, wheat. Clover often in same field with wheat. Wheat is "nurse crop"	Clay loam soils	Hay and cereals grow well on clay loam soils. Hay is usually kept on farm to feed stock.
	Etc.	Winters too cold for grass to grow; ground often covered with snow	Corn is stored in silo to provide moist food for cattle in winter, when grazing is impossible. Wheat is direct money crop and is sold to mills nearby or shipped to Baltimore for export. Etc.

III. Making Guides for Teaching

Your next step is to plan how you can guide children to reach this understanding, for it must be built up bit by bit, and will be attained by the children only

as the culmination of their study. This means that you must provide varied kinds of material from which the children can find interesting and colorful details about the major human activities and the natural environment. It means also that you must provide directions for the use of this material, so that from it geographic understanding will be gained. It will not be possible for you to do this completely, until you are actually teaching, but it will help you, if your unit contains the following teaching aids.

A. Introducing the Unit

In any unit it is essential that your first teaching exercise introduce the children to what people in the region are doing. You may do this thru pictures or any of the usual sources of geographic information, but the emphasis must be on *what people are doing* and the *evidences there are of these activities.* In this first view of the region children should get an idea of the outstanding human adjustments.

If the material you choose is worthwhile and challenging, then from it there should be questions as to *why* these particular people in this particular place are carrying on these particular activities. Thru your selection of motivating material you can guide the attention toward what seems to be the most desirable starting point. If questions and problems do not naturally rise, you probably need to give the children more experience with the material of the unit, rather than waste time "fishing." It is neither necessary nor desirable that a long or comprehensive list of questions come from the first lesson. Avoid lists of questions which the children ask only to satisfy the teacher, and not because they want to know. Your introduction should arouse curiosity about some specific feature or condition of life in a specific region. As children learn more about the region, other specific questions will naturally follow.

B. Solving the Problems Raised

The next exercise you plan will be directed toward the solution of the problem or problems raised in the introductory presentation. *Make a list of five or six problems which apply specifically to the region which you are studying,* and which you think would be worth working on because they deal with outstanding human adjustments and would help develop the geographic personality of the region. Then select one or more problems from this list, and indicate how each might be worked out following these directions:

1. State the problem
2. State the geographic understandings needed to answer the problem.

   The answer to a problem always includes a relationship or a series of relationships. Several lessons may be required for the children to gain these understandings, but you must keep them always in mind to guide you in the selection of specific teaching material.

C. Suggesting Pupil Activities

Give practical suggestions for activities thru which the children can get details about human adjustments and the natural environment. *Place these suggestions in your unit on the pages opposite the understandings toward which they contribute.* These activities may involve the use of any of the usual sources of geographic information, or excursions, experiments or construction work, if such will contribute best to the desired ends. Plan to use those materials which you know will be available, and which you think will be suited to the children. Every *picture, every map, every reference* you choose should function in the development of the specific relationships you wish to bring out. In connection with each activity state briefly:

1. What you expect the children to gain from their participation in it.
2. What your directions to the children might be.

It will be necessary for you to consider whether the children have the background needed to assimilate the new material. If they have not, you must either eliminate the material or plan to introduce experiences required to gain an understanding of it. There must be clear and accurate concepts of the cultural and natural items before they can be used to build relationships. Care must be taken that the children not only see that relationships exist, but that they see also *how* the natural item involved *helps* to explain the cultural one. When children state reasons, lead them to say, "This helps to explain—," "One reason is—."

D. Compiling a Useful Bibliography

Include an annotated bibliography with items which will help you when you are teaching.

Example:—

p. 12. Detailed account of how orange groves are protected from frosts

Indicate whether the reference is suitable for the children or is for the teacher's use only.

IV. Attaining the Goal

Even when the many relationships between human activities and the natural environment have been discovered by the children, they still have not reached the goal toward which all of the work has been directed, namely, an understanding of the geographic personality of the region. From comparisons of these specific relationships, the children may make generalizations, statements concerning the major adjustments of man to the natural environment, which characterize the region as being different from others. These generalizations will be essentially the same as the summary you yourself wrote at the end of II.

V. Testing for the Success of Your Teaching

Finally, you need to test children for evidences of mastery of the understandings desired, and for specific abilities or skills which have been involved in gaining these understandings. Opportunity must be given to the children to use in different situations the ideas or skills they have acquired. This will be a test not merely of what the children have learned, but what you have taught.

HELPFUL REFERENCES

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   Geographic Personality, pp. 120, 262
   Pictures, pp. 507-519; 385-392
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   Selection of material, pp. 162-164
2. Edith P. Parker. The Nature of Units in a Course of Study in Geography. Baltimore Bulletin of Education, December, 1929, pp. 49-53
3. Geography Course of Study for Grades 4, 5, 6. Baltimore Dept. of Ed. 1931. General suggestions, pp. 9-15; 22-26; 117-119; Specific suggestions with each unit.
4. Zoe A. Thralls and Edwin Reeder. Geography in the Elementary School. Rand McNally, Chicago, 1931. Pictures, pp. 393-398; Grafs, diagrams, etc., pp. 399-400
5. Wiedefeld-Walther Geography Test. World Book Company, N.Y., 1931
   Suggestions for types of test questions

6. H. H. Barrows. Some Critical Problems in Teaching Elementary Geography. JOURNAL OF GEOGRAPHY, December, 1931, pp. 353-364
7. Zoe A. Thralls. *Journal of National Education Association*
The Theme of Modern Geography, Oct., 1932, pp. 219-220
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The Teaching Unit in Geography, May, 1933, pp. 153-154
8. Marguerite Logan. A Guide to the Organization of a Geographic Unit. JOURNAL OF GEOGRAPHY, October, 1932.
9. P. W. Bryan. Man's Adaptation of Nature. Henry Holt, 1933

CONCLUSIONS

It seems too soon to decide whether these directions are more successful than those previously used. The method suggested for recording subject matter is being tried in an effort to have students use and interpret facts, rather than just accumulate unrelated items. This analysis and interpretation seem to help the students build up a better understanding of the region they are studying, and to promote the habit of thinking geographically. However, when it is apparent that the material involved can be better expressed in some other way, the organization that seems best suited is used. At present there are few complaints that students do not know the subject matter, and to this extent at least, this plan for making units seems successful.

Because of the inexperience of the students, the inclusion of suggestions for the actual use of the material with children is, of course, the hardest part of the work to make practical. It seems desirable, nevertheless, that students give some evidence that the purposes of teaching geography are known, that they become familiar with children's references, and that they have some preliminary practice in the selection of materials and activities useful in developing geographic understandings. The interpretations which the students have made as a result of their own study show them some of the understandings toward which they must guide children. By asking the students to state what their directions to the children might be, some practice is given in the formulation of questions and directions which require answers of geographic significance, and the geography instructor has an opportunity to help in this phase of the work. The completeness with which this can be done depends upon the individual student and the time available. It is not expected that all of these teaching suggestions will be used directly, but by working with them, students begin the formation of the habit of selecting material with a view to its use for accomplish-

ing specific ends. The above points seem of importance in the education of teachers.

This plan for making units has been presented, not as a finished procedure by which inexperienced students may miraculously become good teachers, but as one stage in a continuous attempt to improve geography teaching. As such, it needs the criticism and suggestions of those interested in similar work.

TEACHING UNIT: A TYPE AREA IN THE LOS ANGELES CITRUS FRUIT DISTRICT

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Pursuant to that philosophy of geography which sees the corn field before seeing the hill on which it grows, this unit of work has been developed around the intensely interesting pattern of human activities found in the Los Angeles Citrus Fruit District.

The unit as here presented is meant to be suggestive of the manner in which the study of geographic problems may enable the student to secure some independence in the use of the tools of geography, and to secure definite enjoyment in his future study from searching out those factors which help to explain patterns of human activity.

I. Objectives

A. Attitudes

To develop an appreciation of the intricate adjustments which man has made to the natural environmental complex of the Los Angeles Citrus Fruit District

B. Abilities

1. Ability to explain the reasons why the people of the Los Angeles Citrus Fruit District live and work as they do, in the form of relationship statements
2. Ability to use the information contained in maps, grafs, and pictures in the solution of geographic problems
3. Improved ability to think geographically, thru the definite application of geographic principles
4. Improved ability to write concisely, eliminating non-essentials
5. Ability to secure enjoyment from the solution of geographic problems

II. Lessons

A. The Crop Pattern of the Fruit Lands

1. Interest lead
   a. Place in the hands of each student mimeographed copies of the "Map of a section of valley near Pasadena." (Smith, J. R.: Human Geography, Book II, page 156). This area presents a human activity pattern that is typical of the district.
   b. Dictate the key to the diagram, and have each student write it on his individual copy.
   c. Discuss the meaning of the symbols with the class, leading them to see that the crops on a typical valley slope in the area appear in a belted arrangement.
   d. Teacher or student may raise the question, "Why is this crop arrangement typical?"
2. Exercise leading to the solution of the problem
   a. Present to the view of the class pictures representing a portion of that appearing in the diagram previously presented. Suggested sources of such pictures are:
      (1) Colby and Foster: Economic Geography for Secondary Schools. pp. 187, 188; also Figure 93 (diagram)
      (2) Barrows and Parker: United States and Canada, page 52
      (3) Keystone View, No. 237 (1930 classification)
      (4) *Los Angeles Times,* Midwinter number 48, part 2, page 11, January 3, 1933
      (5) Educational Exhibit, California Fruit Growers Exchange, Los Angeles
      (6) Chamber of Commerce, Los Angeles, California
   b. Raise this question, "What natural environmental factor appears to be common to all these pictures?" Since the pictures listed all show some degree of slope, the students will be certain to make the desired discovery.
3. Assignment (for individual reports)
   a. Jones and Whittlesey: An Introduction to Economic Geography, Vol. I, Figure 226
   b. Young: Frost Studies in the San Bernardino Area, U. S. Weather Bureau

4. Essential facts
   a. The crop arrangement on a typical valley slope in the Los Angeles Citrus Fruit District is in belted form.
   b. Fruit culture appears to be pursued chiefly on the lower slopes of valleys.

B. The Relation of Slope to Crop Arrangement
1. Interest lead
   Is there any relation between slope and crop arrangement?
2. Exercise leading to solution of this problem
   a. Refer the class again to the mimeographed copies of the crop diagram. Have them list the crops in the descending order of their appearance.
   b. Raise the question, "What principle seems to determine the positions of the various crops on the valley slope?"
   c. Have presented the reports assigned in Lesson A.
   d. It may be necessary for the teacher to amplify the explanation of air drainage, which, the reports will indicate, is the reason for the belted arrangement of crops.
3. Assignment—have a student make a large blackboard copy of the diagram which reveals the type of Southern California's rainfall. (Smith, J. R.: Human Geography, Book II, page 154).
4. Essential facts and principles
   a. The crops, in the descending order of their appearance on the valley slope, are: lemons, oranges, peaches, apricots and grapes, sugar beets, and alfalfa.
   b. The crops are arranged in the order of their ability to resist frost.
   c. Cooler air, by reason of its greater weight, moves down the slope of the plain, and is replaced by warmer air. This is known as the principle of air drainage, which is the reason for the belted arrangement of crops.
   d. Oil heaters are sometimes placed in the orchards to prevent frost damage.

C. The Problem of Securing Water
1. Interest lead
   a. Have the class copy the blackboard diagram carefully. Direct them to compute the amount (in inches) of rainfall occurring in spring, summer, fall, and winter.

b. Raise this question, "How must the fruit grower of this district meet the problem that is presented in this graf?"

2. Exercise leading to the solution of this problem
   a. Call for a clear statement of the problem.
   b. At this point it is necessary for the teacher to present the structure of an alluvial fan and plain, in order to show the manner in which the problem of securing water is met. In preparation for this presentation it is well for the teacher to read: Jones and Whittlesey: An Introduction to Economic Geography, page 60, and to note carefully Figures 226 to 231 inclusive. Having thus mastered the structure of the fan and plain, the teacher should draw on the blackboard a cross-section of a fan, using contrasting bright colors to represent the most important items, which are as follows:
      (1) An alluvial fan is deposited at the mouth of a stream coming from the mountains. It is composed of alternate layers of gravel, sand, and clay; the alternation resulting from varying stream velocity.
      (2) The general texture of the soil of an alluvial fan is coarser in its upper portion and finer in its lower portion.
      (3) Alluvial fans are characterized by gradual slopes.
   c. Show that the structure of the alluvial fan makes it an excellent instrument for the storage of water; the streams sinking into the earth and filling the underground reservior.
   d. By means of a simple diagram show that, since many streams emerge from the mountains, each forming a fan, the fans overlap, and thus is formed the alluvial plain. At this point refer again to the pictures used in Lesson A. (Those secured from the California Fruit Growers Exchange are especially valuable here.)
   e. Have read to the class: Smith, J. R.: North America, pp. 555-558.

3. Assignment
   a. The class will prepare a brief paper on the subject "Natural Environmental Factors to which Fruit

Growing in the Los Angeles Citrus Fruit District is Related." The paper is to include a discussion of each of the following factors:

(1) Snow, (2) Sunshine (rain falls in winter), (3) Forests on mountains, (4) Streams, (5) Mountains, (6) Oil (smudge fires), (7) Soil, (8) Air drainage.

In preparation for the writing of this paper the following references will be found helpful to the student:

(1) Colby and Foster: Economic Geography for Secondary Schools, pp. 184-192
(2) Smith, J. R.: Human Geography, Book II, pp. 152-156
(3) Various pamphlets issued with the Educational Exhibit which can be secured free from the California Fruit Growers Exchange, Los Angeles, California
(4) Water supply papers Numbers 142 and 468, U. S. Geological Survey
(5) Soil surveys of the Victorville, Anaheim, Pasadena, and San Fernando Valley Areas, California. U. S. Dept. of Agriculture

4. Essential facts and principles
   a. The rainfall of southern California occurs chiefly in winter and much of it falls as snow on the mountains.
   b. The fruit grower of the district meets the problem of securing water by means of irrigation. The water comes from mountain streams, and from the underground reservoir of the alluvial plains.
   c. An alluvial plain is a succession of alluvial fans which overlap due to the proximity to each other of the streams which formed the fans.
   d. An alluvial fan is a formation composed of alternate layers of sand, gravel, and clay, deposited by a stream issuing from the mountains with varying velocity. It is these variations in velocity which cause the sediment thus to vary from uniform texture.
   e. The alluvial plain, because of the varied texture of its component layers, is an excellent storehouse for water which enters the ground in the upper, and therefore coarser, portion of the plain.

f. These alluvial plains are characterized by gradual slopes.

D. Cooperation

1. Interest lead

a. The fruit farmers of this district almost all belong to cooperative associations. The reasons why this is so are several, but the chief reason is directly connected with the natural environment. What is the reason?

2. Exercise leading to the solution of the problem

a. Direct the class to refer to the crop diagram and the blackboard drawing of the alluvial fan and plain.

b. Raise these questions:

(1) On the basis of the cross-section shown on the blackboard, what part of the alluvial plain would you consider the most valuable? (Do not consider the crop diagram or air drainage.)

(2) On the basis of the crop pattern and considering air drainage, what part of the alluvial plain is the most valuable?

(3) If the water level in the underground reservoir is lowered, which part of the alluvial fan suffers first?

(4) Do you now see the necessity for cooperation?

c. Other reasons for cooperation may be indicated by teacher or students, such as, distance from markets, maintaining prices, etc.

3. Essential facts and principles

a. The fruit farmers of the Los Angeles area largely belong to cooperative organizations.

b. There are various reasons for their cooperation, such as, distance of the area from its best markets, the maintenance of prices, standardization of the product, etc.; but one of the most important reasons lies in the natural environment. It is the necessity for maintaining the level of the water in the underground reservoir, as a fall in this level due to waste or loss of water would affect the most valuable land first, the upper part of the alluvial plain being the most valuable, due to the value of its products.

c. On a basis of soil texture the lower part of the alluvial plain would be the most valuable part.

ADDITIONAL REFERENCES

1. Ward: Climates of the United States, pages 29, 199, 438-442.
2. Huntington and Cushing: Principles of Human Georgraphy, various references. See Index.
3. Smith, J. R.: North America, pp. 539-564. Excellent.
4. Salisbury, Barrows and Tower: Modern Geography, pp. 235-36.
5. Miller and Parkins: Geography of North America, pp. 371-378.
6. Fifteenth Census of the United States: 1930. Agriculture of California, Statistics by Counties, First and Second Series.
7. United States Department of Agriculture, Weather Bureau: Climatic Summary of the United States, Section 18, Southern California and Owens Valley.

THE SPREAD OF POPULATION OVER EUROPE

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At the dawn of history most of the people living in Europe were found in the Mediterranean region. Primitive people were unable to extensively clear forests or to till the sod on grasslands, as they had no effective method of cutting down trees or of plowing up sod. Consequently the people living in the densely forested or the sod-covered sections were chiefly hunters or fishermen.

The advantages of agriculture over the precarious livelihood afforded by hunting and fishing are so great, however, that gradually agriculture spread from the naturally irrigated valleys of the Nile and Tigris-Euphrates, where it apparently had its chief start, into Mediterranean Europe, where conditions are locally quite similar. As in nature there are no sharp boundaries, slowly agriculture spread northward, along flood-plains and in natural clearings and then into tiny artificial clearings.

When steel became cheap enough, about a thousand years ago, to permit it to be widely used for axes, clearings in the northern forests were greatly extended, with a result that population increased notably during the next few centuries in northwestern Europe.

The extensive use of coal and machinery, which commenced in England, ushered in the beginning of "The Industrial Revolution," about the time of the American Revolutionary War. The great increase in efficiency of manufacture which the factory system permitted, led to great increases in commerce and population. As industrialization spread from England, so did the increase in population.

The population of favored areas in the "North Sea Countries"

became the densest in Europe, and the world's largest cities of the time grew up there. Athens, Rome, Florence, and Constantinople were left far behind.

A century ago the fertile plains of the Black Earth region of Russia were still sparsely settled. During the 1840's and 1850's, however, extensive improvements in steel plows were made in America. With steel plows, it was first feasible to break the heavy sod of this choice agricultural region, and during the next few decades, the Ukraine and adjacent areas were widely occupied. That section of Europe has increased most conspicuously in population during the past few decades. Russia in Europe grew in population almost as much between 1820 and 1930 as did the United States.

Two other important influences affecting regional changes in the density of population have been the decrease in the death-rate and birth-rate. The mortality rate formerly was high enough to almost equal the birth-rate. Improved sanitation, medical care, better diet, and methods of reducing the loss of life from famines were chiefly developed in northwestern Europe. As the death-rate fell, the population increased. Methods of reducing the death-rate have spread progressively outward from the countries bordering the North Sea. Recently the death-rates have been declining appreciably in southern and eastern Europe, thus permitting a rapid increase in population there.

The fall in the birth-rate also commenced in northwestern Europe, partly a result of the great decline in the death-rate. By birth-control, France approached a stationary population a century ago, despite the great decline in deaths. Gradually the reduction in birth-rates has spread. Recently births have been fewer than deaths in various German cities, and an actual decrease in the population during the next century in northwestern Europe in general is forecast by experts. Despite Mussolini's strenuous efforts, the birth-rate of Italy has fallen sharply since the World War, but since the death-rate has fallen even more, the Italian population is increasing rapidly. Birth-rates have only commenced to fall in Russia, and presumably there will be a very considerable increase in Russian population before births and deaths are balanced.

A paper presented at the International Congress of Geography at Warsaw, Poland, in August, 1934, by Josef Haliczer of Tarnopol, Poland, entitled "The Population of Europe 1720, 1820, and 1930" is printed in *Geography,* the organ of the British Geographical Association, for December, 1934. As few readers of the JOURNAL OF

GEOGRAPHY have access to this article, a summary of some phases of it will now be presented in extension of the foregoing paragraphs.

Europe had about 110,000,000 people in 1720, about 208,000,000 in 1820, and about 497,000,000 in 1930 (and more than 500,000,000 now). France was the most populous country in 1720, was second in 1820, and fourth in 1930. Since then Italy has surpassed France also.

The leading countries (present boundaries) with their populations in nearest millions:

Country	*1720*	*1820*	*1930*	*Country*	*1720*	*1820*	*1930*
France	19	31	42	Yugoslavia	?	6	14
Russia	16	37	120	Greece	?	4	6
Germany	14	23	64	Austria	2	3	7
Italy	13	20	41	Portugal	2	3	7
Spain	8	13	24	Holland	2–	2	8
Britain	7	15	46	Hungary	2–	3	9
Poland	6	11	32	Belgium	2–	3	8
Czechoslovakia	4	7	15	Sweden	1.4	3	6
Rumania	?	7	18	Switzerland	1.4	2	4

The data by countries given by Haliczer reveal that from 1720 to 1820 only Ireland, Great Britain, Hungary, and Russia doubled in population. From 1820 to 1930, however, eight European countries more than trebled their population, namely Britain, Belgium, Netherlands, Denmark, Norway, Finland, Lithuania, and Russia. Germany, Poland, and Estonia almost trebled their populations, while the population was doubled or almost doubled in most of the other countries. The most conspicuous exceptions were Ireland, France, and Turkey. Ireland had only about half as many people in 1930 as in 1820.

Altho population density increased in all countries except Ireland between 1820 and 1930, the less densely peopled one-fifth of the more important countries increased far less than did the more favored one-fifth. For example in Britain the most populous one-fifth had 11 times the density of the poorer in 1820 but 46 times as many people to the square mile in 1930, or more than 4 times the contrast. In France and Germany the contrast between the poor and better fifths more than doubled between 1820 and 1930. In Spain, Italy, and Poland the contrasts increased about 50 per cent.

Dr. Haliczer's third table indicates that since 1720 northwestern Europe, with slightly less than one-tenth of the area of Europe, has had about one-quarter of the population, but that its ratio has fallen from 28 per cent to 22 per cent, as Russia, with nearly half of the area, has increased its proportion of Europe's population from 17

per cent in 1720 to 24 per cent in 1930. The Scandinavian lands, with 13.6 per cent of the area, have continually since 1720 had about 4 per cent of the population, while the Mediterranean peninsulas with only slightly more land (14.8 per cent) have more than one-fifth of the population. Southern Europe's ratio has declined, however, from 24 per cent in 1720 to 20 per cent in 1930. Central Europe, including Rumania (15.7 per cent of Europe) has increased its share of the population from about 27 per cent in 1720 to 30 per cent in 1930.

The center of population of Europe has moved from near Munich, Germany, in 1720 to just north of Vienna, Austria, in 1930, moving about 60 miles east-north-east from 1720 to 1820, but about 120 miles east and about 5 miles north between 1820 and 1930. In Russia, the center of population has moved southward 120 miles since 1720, when it was 25 miles south of Moscow.

THE SECOND GENERAL ASSEMBLY OF THE PAN AMERICAN INSTITUTE OF GEOGRAPHY AND HISTORY

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At the closing session of the recent meeting of the Pan American Institute of Geography and History, held in Washington, D.C., the following officers were elected for a term of three years: For president and chairman of the executive committee, Dr. John C. Merriam, of the Carnegie Institution of Washington; for vice-president, Dr. Conde de Affonso Celso, Brazil, Dr. Roberto Andrade, Ecuador. Three honorary presidents were also elected: Dr. William Bowie, U. S. A., Dr. Rafael Belaunde, Peru, and Dr. Wallace W. Atwood, retiring president of the institute. The next meeting, which should come in 1938, will be held at Lima, Peru.

The week from October 14 to 19, 1935, had been crowded with formal sessions, at which papers were presented by delegates from several of the nineteen countries represented in the institute, with social engagements and with excursions to places of special interest in and about the national capital. The State Department of the United States Government served as host, and the Hon. Cordell Hull, Secretary of State, gave the address of welcome on behalf of the government. Later in the week Mr. and Mrs. Hull tendered a reception at the Hotel Carleton to all delegates, and provided a very delightful entertainment. The National Geographic Society invited the delegates to their home, where they enjoyed a premier showing of the motion pictures taken by Bradford Washburn on his recent expedition, conducted under the auspices of the society, in Alaska. Following the lecture the delegates enjoyed the very generous hospitality of President and Mrs. Grosvenor and other officers of the National Geographic Society. The Carnegie Institution of Washington arranged special exhibits and illustrated papers for a meeting held at their headquarters during one of the evenings of the assembly week and entertained the delegates most generously. His Excellency, the Ambassador

from Mexico to the United States, invited the entire party to the Mexican Embassy.

At the first regular session held in the Hall of the Americas at the home of the Pan American Union, Dr. Pedro C. Sanchez, director of the institute, presented his report of the work of the organization since the first general assembly was held in Rio de Janeiro in 1932.

Among the many notable papers presented in various sessions were: "The Development of Maya Research," by Dr. A. V. Kidder; "The Agricultural Mayans," by Dr. Rollin S. Atwood; "Bolivar, Man of Peace—The Beginning of International Cooperation in America," by Dr. Enrique Finot; "Geography and History Among the Sciences," by Dr. John C. Merriam; "The Historical Meaning of Monte Alban as Indicated by the Explorations of 1932-1935," by Dr. Alfonso Caso; "The Redistribution of Population," by Dr. L. C. Gray; "Early Economic Crises in Cuba and Their Relation with United States Commerce," by Dr. Ramiro Guerra; "Economic Transformation of South America," by Dr. Clarence F. Jones. These and many others are now being assembled for publication in the proceedings of the assembly.

The Pan American Institute of Geography and History is the outgrowth of a suggestion made in 1928 at a conference held in Havana when ways and means for promoting intellectual cooperation among the people in the western world were under consideration. Later it was decided that the headquarters and permanent home of this institute should be in Mexico City. The Mexican government has provided an excellent building where offices, drafting rooms, library and private studies are available. During the years that have passed since its organization, the institute has conducted many important investigations. New maps have been published and a number of scientific monographs have been issued. Other maps are now under construction and archeological investigations are in progress. Thru the generosity of the Mexican government and the cooperation of a number of the American republics, headquarters have now been established where scholars interested in geographical or historical research in the Americas will be given every possible assistance.

The Pan American Institute of Geography and History differs from most international organizations in that it is established for the active promotion of and participation in research.

Arrangements for the recent assembly held in Washington were made by an organizing committee, appointed by the State Department: Dr. Wallace W. Atwood, *chairman;* Col. Claude H. Birdseye; Major William Bowie; Dr. A. V. Kidder; Dr. Waldo S. Leland; Mr. Hunter Miller; Mr. Richard Southgate. The President of the United States has furthermore appointed a National Committee to cooperate with the Pan American Institute of Geography and History. That committee is organized as follows: Dr. Wallace W. Atwood, chairman; Colonel Claude H. Birdseye, *vice-chairman for geography;* Dr. Clarence H. Haring, *vice-chairman for history;* Dr. A. S. Aiton; Mr. Harlan H. Barrows; Dr. S. W. Boggs; Dr. Herbert E. Bolton; Major William Bowie; Dr. Charles F. Brooks; Colonel Frederic A. Delano; Dr. Nevin M. Fenneman; Dr. Gilbert H. Grosvenor; Dr. C. W. Hackett; Dr. Ellsworth Huntington; Dr. Douglas Johnson; Dr. A. V. Kidder; Dr. Waldo S. Leland; Dr. Irving A. Leonard; Colonel Lawrence Martin; Dr. John C. Merriam; Mr. Hunter Miller; Dr. Parker T. Moon; Dr. Dana G. Munro; Dr. Robert C. Murphy; Dr. Lowell J. Ragatz; Dr. J. Fred Rippy; Dr. James A. Robertson; Dr. W. S. Robertson; Dr. Carl O. Sauer; Dr. France V. Scholes; Dr. Alfred M. Tozzer; Dr. Frank E. Williams.

Dr. Pedro C. Sanchez, the director, and Mr. Octavio Bustamante, the assistant director, continue to have immediate charge of the activities of the institute. Their offices are at the headquarters of the institute in Mexico, D.F.

EDITORIAL NOTES AND NEWS

According to the *National Aeronautic Magazine*, September, 1935, the span of British commercial aviation covers 25,000 route miles over four continents and crossing thirty countries. The longest direct service connects London with Australia with no night flying. The first day out of London ends at Brindisi with stops at Paris, Marseilles, and Rome. The second night is at Alexandria after stops at Athens and Crete. Baghdad is reached the third evening. The fourth day's flight skirts the Arabian side of the Persian Gulf ending at Sharjah. The fifth day via Gwadar and Karachi ends at Jodhpur, followed the next day by stops at Delhi, Cawnpore, Allahabad and Calcutta. The eighth day, Singapore is the destination after a stop at Rangoon. Then the plane crosses Netherland India, the Timor Sea to Darwin whence the journey continues to Brisbane and Sydney which is reached on the twelfth day. These planes are four-engined and carry thirty-eight passengers.

DR. CHARLES E. KELLOGG has been appointed Principal Soil Chemist and Chief of the Soil Survey Division of the Bureau of Chemistry and Soils, U.S. Department of Agriculture. He succeeds Dr. Curtis F. Marbut whose death occurred on August 25 at Harbin, Manchukuo. Dr. Kellogg will direct the program of soil survey and land classification initiated by Dr. Marbut and cooperate with such agencies as the T.V.A. and the A.A.A.

The 1935 wheat rust epidemic was the worst the country has experienced since 1916 due to days of south wind carrying spores from infected southern grain to northern fields, high temperatures, plenty of moisture, and wheat stands retarded by the late spring. Tests by Department pathologists in Minnesota and the Dakotas during the time of greatest infection showed a "fall" of rust spores from Kansas and Nebraska to average about 1,000 a square foot in a day. As the rust-resistant varieties stood up best under the infection, increased interest is being taken in the new highly resistant varieties, such as Thatcher which has been developed in Minnesota, Ceres in North Dakota, and Hope in South Dakota.

The U.S. Department of Agriculture estimates this year's soybean crop in the six important bean growing states: Ohio, Indiana, Illinois, Iowa, Missouri, and North Carolina, to be more than thirty-three million bushels, nearly twice that of 1934, and three times the six-year average (1928-1933). The area harvested for grain in these states is estimated to be more than two million acres in extent. This year a larger proportion of the total acreage was harvested for beans because of the larger available supplies of hay and forage.

The Nebraska Council of Geography Teachers last fall began the publication of the tenth volume of its Bulletin. Number one of this volume contains an article, The Geographic Background of the Italo-Ethiopian War, by Willem Van Royen of the University of Nebraska. Dr. W. R. McConnell, Miami University, addressed the fall meeting of the Council. Subscriptions to the Bulletin are nominal and may be paid to Mildred Krouch, 2821 North 51st Street, Lincoln, Nebraska.

The following were elected officers of the Geography Section of the Maryland State Teachers Association at the fall meeting: Ida V. Flowers, chairman, Hamilton Junior High School, Baltimore; John Hale, vice-chairman, Parkville; Pearle Blood, secretary, State Teachers College, Towson; James A. Sensenbaugh, assistant secretary, Freeland.

The November, 1935, Bulletin of the Boston Association of Geography Teachers features an article, European Interests in Ethiopia, by Leonard O. Packard of the Teachers College of the City of Boston.

Special Supplement No. 1, November 20, 1935, Mineral Trade Notes, U. S. Bureau of Mines, Metals and Nonmetals Division, contains a symposium on Italy's Metal Industries. Except for aluminum and zinc, Italy is dependent to a large extent on foreign supplies of the major nonferrous metals. A large export surplus has been created for aluminum, and the bauxite resources are expected to sustain an expanding production for years to come. Zinc, too, should suffice for years to come.

According to a recent press release from the U. S. Department of Agriculture, the cattle fever tick area in the United States has been reduced to less than nine per cent of the former infested area thirty years ago when the eradication work began. On December 1, 1935, the only remaining quarantined areas were in Florida, Louisiana, and Texas, together with Puerto Rico. Similarly, the United States is winning the campaign against bovine tuberculosis. A tabulation now shows that the average degree of tuberculosis infection in cattle is now about 0.5 per cent as compared with 4.0 per cent in 1922.

Following a survey of the tung oil producing areas of the United States from Florida to Texas, the U. S. Department of Commerce estimates that 60,000 acres have been planted to the tung tree, and that the planters have a reasonable prospect of success if willing to be guided by those investigating the demands of the tree. Our annual consumption of tung oils is about 100,000,000 pounds, three fourths of which is used in the paint and varnish industry. The United States takes about 75 per cent of China's tung oil export.

According to a release from the U. S. Department of Agriculture, dated December 4, 1935, Florida has made the study of natural resources a required subject in state educational institutions and high schools, and has established a department of forestry in the University of Florida. Another release dated December 13, reports that in 1935 the Forest Service assembled data and recommendations for the National Resources Board pertaining to more than 80 per cent of the total forest area of the country. This is to be used as a definite basis of understanding for future activities of forestry agencies. Also, the Forest Service planned and supervised 70 per cent of the work of the CCC. More than two million acres were added to the present national forest system in 1935 and planting was done on 125 miles of shelterbelt and on some 4800 farmsteads.

GEOGRAPHICAL PUBLICATIONS

Eliot G. Mears. **Maritime Trade of Western United States.** 538 pp. Illustrated. Stanford University Press, California. 1935. $4.00.

In this scholarly piece of work an old problem is attacked in a new and refreshing manner for, unlike the many other books similarly titled but in which "geographical aspects" are entirely confined to the opening chapter, the theme of regional geography is here consistently maintained. The strict economic viewpoint to be expected in this field of study has been greatly enriched by a strong historico-geographic treatment. Doubtless with an eye to the varied interests of his prospective readers, the author has shrewdly avoided technical phraseology, but yet has retained enough of the more advanced geographical philosophy to be satisfying to the geographically trained reader as well. A special merit of the volume is its logical procedure from the factual to the interpretative. This is illustrated early in the volume for in Chapter II the shipping and trade position of the region is broadly outlined providing a suitable challenge for later interpretation. The chapters immediately following treat of climates, seacoasts and resources. Here the author leans heavily upon state boundaries for delimiting regions; more satisfying would have been the use of systematic regional boundaries. The natural environment having been outlined in the earlier chapters, attention is paid in Chapter V to the evolution of Pacific trade which, in turn, is logically followed by a chapter on the effects of the Panama Canal. This chapter is especially well supplied with tables and grafs gathered from a variety of sources. A separate chapter is devoted to statistics of ocean shipping, in which one is warned not to be caught off his guard in unquestioningly accepting either official or unofficial data, for such data are often found to be of a misleading character. Chapter VIII, in which the Pacific Ports are analyzed, is of especial interest and value to geographers. The next major part of the book takes up, in successive chapters, the trade of the west with other world regions—the Far East, Europe and Latin America. Following a consideration of shipping conferences and governmental subsidies in which the viewpoint is necessarily economic, two concluding chapters provide a review and a forecast. Appendices include a complete criticism of statistical sources as well as data covering every conceivable aspect of west coast maritime trade. The lengthy bibliography contains an unusually large number of strictly geographical titles. This will prove to be a book widely useful to teachers and it is to be hoped that other maritime trade books of similar high calibre will in time appear.

RALPH H. BROWN

University of Minnesota

M. Whiting Spilhaus. **The Background of Geography.** 286 pp. 88 maps, photos, and other illustrations. J. B. Lippincott Co., Philadelphia. $2.50.

H. E. Tozer. **A History of Ancient Geography.** 387 pp. 10 maps. Cambridge, The University Press. 1935. $5.50.

These two books, each of which purports to treat the progress of "geographical discovery," have little else in common. The former is written so that he who runs may read, the latter so that he who plods may learn.

Miss Spilhaus' book is marred at times by a forced sprightliness and a cumbersome impishness reminiscent of the less appealing passages in Dickens' "A Child's History of England." Starting with "The Dawn of Human Knowledge," and continuing to the seventeenth century, the explorations and discoveries by which our knowledge of the earth's surface grew are told in some detail. A concluding chapter speaks of polar exploration up to 1931. The author is particularly felicitous in depicting the thrill and glamour of voyages of discovery, and in sketching the personalities of her explorers.

She does not make use of any knowledge she may have of the environmental-cultural interrelationship concept held by many modern geographers.

The illustrations, mostly pictures of ships or men, interrupt, but do not materially assist, the perusal of the text. There are several excellent maps, aptly distributed, but not referred to. There is an adequate index. For young students, or the casual reader, this book is worth attention as a series of adventure stories, and would seem to deserve a place in the travel section of high school and public libraries.

Tozer's fine book, first published more than thirty years ago, appears now in a second edition, with additional notes by M. Cary. These notes, largely a discussion of points upon which research of the past thirty years has thrown new light, are placed at the end of the original text.

The author recognizes four subdivisions of geography, viz., mathematical, physical, descriptive or political, and historical. Thoroly, conscientiously, with abundant documentation, he traces progress in each of these four fields from early times thru the Augustan Age. His profound scholarship is especially evident in his ability to carry forward the four strands of his exposition, intermingling them constantly, but never losing track of one. The job is workmanlike and impressive, but sentences and paragraphs are long and involved, and the style is pedantic.

Ten valuable folded maps are so well mounted and accurately placed with regard to the text that they may be consulted easily and quickly. They are credited to Edwin Wilson, and present the world as known to early students from Hecateus to Ptolemy. There are no other illustrations. An excellent index and a select bibliography are provided.

The professional geographer and the advanced student of the subject will find information, inspiration, and many a clue to modern trends in this account of the early development of the science. For the student Tozer's tome should assist in effecting a right orientation toward his subject. For the professional geographer it might well effect a valuable reorientation.

L. C. DAVIS

State Teachers College
Indiana, Pennsylvania

Michigan Papers in Geography, Vol. 5. 141 pp. Ann Arbor. 1935. $1.50.

This is a collection of six papers delivered before the Michigan Academy of Science, Arts and Letters during 1934. The opening paper, by D. G. Cooper and F. A. Stilgenbauer, is an urban study of Saginaw, a short treatment performed in the traditional manner—site factors, material and human resources in growth, and analysis of functional areas. Departing from the usual, is the cut on p. 309 which shows five type areas selected from various parts of the now consolidated city which, before 1890, consisted of two rival centers on either side of the Saginaw River. The succeeding three papers—"The Lake St. Jean Lowland" (R. M. Glendinning), "The Black Hills of South Dakota and Wyoming" (Otto Guthe), and "The Central Pyrenean Piedmont" (H. M. Kendall), constitute acceptable additions to the rapidly growing store of careful regional studies; in these instances elaborated treatments of papers which have been published in part in other periodicals. Treating of widely diverse regions these papers nevertheless have much in common, notably the emphasis upon occupance patterns. Constant reference is made to the "blending of patterns" and the "mosaic of landscapes." Each of these studies involves a large areal coverage, each is the result of both field and library work, and all major conclusions are adequately supported by map and picture evidence. In the fifth paper, Harold Underhill writes informatively upon a timely theme—"The Assembly of Airplane Photographic Mosaics," while the concluding paper "Abandoned Channels of the lower Huron River" (J. W. Bay) is a most detailed study of present and past drainage lines, carefully mapped but with slight interpretation.

University of Minnesota RALPH H. BROWN

INTEREST-STIMULATING DEVICES

Geographic Relationships

If we, as teachers, work out the geographic relationships of countries or units in our geography work, we will have some very important goals to stress and the students will have a better understanding of how and why the people live as they do in their country.

An example of this device is given below with the Belgian Congo taken as the illustrative unit. It makes a very good review or summarization exercise.

Activities or Ways of Living	Some factors in the environment to which these ways of living are related
1. Houses	
Building grass houses	Warm climate all the year
Building sloping roofs	Much rain
Using vines instead of nails	Hot, wet climate
Building houses in the open	Tropical storms
Building windowless or open houses	Summer all year
Obtaining shelter easily and cheaply	Summer all year. Nature is bountiful
2. Food and Drink	
Fish	Streams and rivers
Corn	Warm climate, long growing season
Manioc	
Bananas	Warm climate, much rain, long growing season
Rice	
Palm Oil	
Wild Animals	Much rain, much food, dense vegetation
Obtaining food easily and cheaply	Summer all year. Nature is bountiful
Ituri Forest Beer	Abundance of bananas
3. Dress	
Wearing little clothing	Hot, wet climate
White people wearing white clothing	Hot sun nearly overhead all year
Obtaining clothing easily and cheaply	Nature is bountiful. Summer all year
4. Travel	
Using wood for steamers and locomotives	Forests
Using hollowed logs for boats (dugouts)	Forests
Using rafts of logs	Forests
Using stern wheel boats instead of side wheelers	Shallow streams and sand bars, danger of grounding
Using streams for travel and freight	Dense forests and much rain most of the year
Portage of goods and passengers	Falls, rapids, and cataracts in streams
Running boats only by day	Sand bars and shallow streams
Building and maintaining few roads	Hot, wet climate
Building and using wooden bridges	Forests
5. Work	
Hunting	Rain, grass, game
Fishing	Many rivers
Ivory industry	Elephants
Net making	Palm fibers
Making pottery and musical instruments	Material at hand
Making palm oil	Palm trees
Work of blacksmiths	Need for hunting implements
Trading done in town	Need for exchange of goods
Rubber industry	Rubber vines and trees
Railroading	Falls and need for carrying lumber
Path making	Dense forests

Use of human burden carriers	Lack of domestic animals because hot, wet lands are unhealthful for them
Little manufacturing	Absence of iron and coal and character of people imposed by the hot, wet climate
Building bush fires	Need of concentrating game, for hunting, near large rivers
Fishing for minnows	Many pools and low places with shallow water
Burning leaves of certain plants	Far from sea, no salt beds
Building reed fences	Material at hand
Caring for dogs, goats, and chickens	Can stand hot, wet climate and the tsetse fly.*

For younger children, some of the relationships stated above probably should not be used. Some of the statements of the activities and the factors in the environment to which they are related are too abstract for them. The teacher should always endeavor to develop the reasoning powers of her students.

RALPH S. HARRIS, *Principal*

Lincoln School
Wood River, Illinois

* The relationships, in part, are quoted from the Springfield, Missouri, Course of Study in Geography.

NOTE

"I think the interest-stimulating devices are a very helpful part of the JOURNAL." Similar expressions of appreciation come to us frequently. You can coöperate. Send descriptions of your interest-stimulating devices to the JOURNAL. We will be pleased to pass them on as an aid to others, thru the pages of the JOURNAL. There must be hundreds of teachers who have worked out these aids in teaching. Make your description brief, clear, and exact so that another teacher may follow your directions.

Editor

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Some Experiences in Presenting Work in Field Geography in a Teachers College. By L. C. Davis 47

Mr. Davis is a member of the geography staff at the State Teachers College, Indiana, Pennsylvania. He is in charge of the work in field geography on the basis of which this article was written.

Scandinavian Cities: Copenhagen and Bergen. By O. D. von Engeln 54

Dr. von Engeln is a professor of geography at Cornell University, and is well known for his textbook in physical geography; and his books of more general interest, such as, "Inheriting the Earth," and the "Story Key to Geographic Names." He believes that the new geography should be written along the lines illustrated by this series of brief sketches and invites your criticisms and suggestions.

A Quantitative Analytical Comparison of Geography Textbooks. By L. H. Halverson 60

Dr. Halverson is Chairman of the Department of Geography, State Teachers College, Marquette, Michigan, and a frequent contributor to education journals. He is author of "Beloit, Wisconsin: A Study in Urban Geography."

The Coffee Industry of Colombia. By Fredonia M. Pruitt 68

Mrs. Pruitt, of Greeley, Colorado, is a graduate of Columbia University and a former public school, college, and university instructor.

The St. Louis Meeting of the National Council. By William J. Berry 73

Mr. Berry is Chairman of the Department of Geography, State Teachers College, Kalamazoo, Michigan, and Secretary of the National Council of Geography Teachers.

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